



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/762,091

01/20/2004

Atsushi Miyamoto

16869N-103800US

4602

20350 7590 12/16/2008  
TOWNSEND AND TOWNSEND AND CREW, LLP  
TWO EMBARCADERO CENTER  
EIGHTH FLOOR  
SAN FRANCISCO, CA 94111-3834

EXAMINER

RASHID, DAVID

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

12/16/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/762,091	<b>Applicant(s)</b> MIYAMOTO ET AL.	
	<b>Examiner</b> DAVID P. RASHID	<b>Art Unit</b> 2624	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 October 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

*Table of Contents*

<b><i>Continued Examination Under 37 CFR 1.114</i></b> .....	2
<b><i>Amendments &amp; Claim Status</i></b> .....	2
<b><i>Claim Objections</i></b> .....	2
<b><i>Response to Arguments</i></b> .....	2
<b><i>Claim Rejections - 35 USC § 101</i></b> .....	4
<i>Judicial Exception – Abstract Idea</i> .....	4
<i>In Re Bilski – “Tied To” Criteria</i> .....	5
<b><i>Claim Rejections - 35 USC § 102</i></b> .....	5
<i>Straforini et al.</i> .....	6
<b><i>Conclusion</i></b> .....	8

***Continued Examination Under 37 CFR 1.114***

[1] A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 29, 2008 has been entered.

***Amendments & Claim Status***

[2] This office action is responsive to the claim and specification amendment received on October 29, 2008. Claims 18-21 remain pending; claims 22-23 cancelled.

***Claim Objections***

[3] In response to the Amendments to the Claims received on October 29, 2008, the previous claim objections are withdrawn.

***Response to Arguments***

[4] Remarks/Arguments filed October 29, 2008 with respect to claims 18-21 have been respectfully and fully considered, but not found persuasive.

Art Unit: 2624

None of these classifiers, such as RBC2 (58), however, discloses a second inspection machine (a defect review machine) as recited in Applicants' claim 18 or described in Applicants' disclosure. For example, *Straforini* does not disclose a function that enables a second inspection machine to acquire an enlarged image of the defect for inspection.

Applicant's Remarks/Arguments at 5, October 29, 2008.

### ***Examiner's Response***

However, the claims do not positively recite "a function that enables a second inspection machine to acquire an enlarged image of the defect for inspection." A question of whether the claim "enables" to perform various function is irrelevant if that function itself is not positively recited in the claim.

Further, *Straforini* does not disclose that, in a determining step, a sampling rate of defects to be reviewed by a second inspection machine (a defect review machine) is determined for each of a set of defect classes, as classified by a first defect classifier corresponding to the first inspection machine, to reduce a number of defects to be reviewed by the second inspection machine. *Straforini* also does not further disclose reviewing, with said second inspection machine, defects sampled from said defects detected by said first inspection machine in accordance with said determined sampling rate and classifying said reviewed defects with a second defect classifier corresponding to said second inspection machine.

Remarks/Arguments at 5.

### ***Examiner's Response***

However, as explained in the rejection below a group of defects enters system fig. 5b at the first inspection machine items 54, 56 (whether they are classified or not). Item 56 then breaks those classified objects from item 56 of the original group of unclassified objects, sending the classified objects to the second inspection machine item 58.

The second inspection machine item 58 will never have to review defects from both item 54 (those classified by item 54) and 56 (those unclassified by item 56). Since those defects just mentioned never make it to second inspection machine item 58, the first inspection machine items 54, 56 reduce a number of defects to be reviewed by the second inspection machine item 58.

Art Unit: 2624

**TABLE 1**

- (i) Group A of possible defects → Item 54, the beginning of the first inspection machine
- (ii) Group B (only those objects unclassified by item 54) < A → Item 56, the end of the first inspection machine
- (iii) Group C (only those objects classified by item 56) < B → Item 58, the second inspection machine which only reviews Group C < A,B.

Additionally with respect to determining a sampling rate for each defect class classified by the first defect classifier corresponding to said first inspection machine to reduce a number of defects to be reviewed by the second inspection machine among the defects detected by the first inspection machine, the Final Action pp. 8-9 supports that a run-through of the algorithm of fig. 5b would find a number of defect samples taken per a run-through of the algorithm (and thus a "sampling rate of defects").

The determination of sampling rates for each defect class in the first defect classifier corresponding to the first inspection machine is present, and a reduction of a number of defects to be reviewed by the second inspection machine among the defects detected by the first inspection machine is also present. The Examiner suggests further limiting with respect to the determination of sampling rates for each defect class so that those sampling rates are positively used when those classes reach to the second inspection machine, and that those defects are in fact thus positively reduced.

***Claim Rejections - 35 USC § 101***

[5] 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

***Judicial Exception – Abstract Idea***

**Claims 18-19 and 21** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Art Unit: 2624

A judicial exception claim is non-statutory for solely embodying an abstract idea, natural phenomenon, or law of nature. *See* M.P.E.P. § 2106(IV)(C)(2). However, a practical application of a judicial exception claim is a § 101 statutory claim “when it:

- (A) ‘transforms’ an article or physical object to a different state or thing [(i.e., a physical transformation, see below)]; or
- (B) otherwise produces a useful, concrete and tangible result, based on the factors discussed below. . . .” *Id.*

§ 101 statutory transformations of intangible articles or physical objects must be physical transformations (i.e., a physical component to the transformation must be involved). *See* M.P.E.P. § 2106(IV)(C)(2) (requiring the element “provides a transformation or reduction of an article to a different state of thing”, a “practical application by physical transformation”) and Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, Official Gazette notice, 22 November 2005, Annex (II)(B)(iii); (III).

*In Re Bilski – “Tied To” Criteria*

[6] In addition with respect to **claims 18-21**, while the claims recite a series of steps or acts to be performed, a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. *See Clarification of “Processes” under 35 U.S.C. 101*, Deputy Commissioner for Patent Examining Policy, John J. Love, May 15, 2008; *available at* [http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/section\\_101\\_05\\_15\\_2008.pdf](http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/section_101_05_15_2008.pdf).

The instant claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

***Claim Rejections - 35 USC § 102***

[7] The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Art Unit: 2624

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

*Straforini et al.*

[8] **Claims 18-21** are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,092,059 (issued Jul. 18, 2000, hereinafter "*Straforini et al.*").

Regarding **claim 18**, *Straforini et al.* discloses a method (fig. 5b) of classifying defects ("classification of material defects in an image of the material" at 6:15-20), comprising the steps of:

determining a sampling rate of defects (14:14-25; "RBC2...defines subclasses of the main classes defined by the TBC, e.g., 'long scratch,' and 'short scratch,' both of the main class 'scratch' " at 14:14-25) to be reviewed by a second inspection machine (fig. 5b, item 58) among defects detected ("RBC2...defines subclasses of the main classes defined by the TBC" at 14:14-25) by a first inspection machine (fig. 5b, items 54, 56); and

reviewing with said second inspection machine (fig. 5b, item 58), defects sampled (the defects in items 56 and 58 were sampled and reviewed) from said defects detected ("CLASSIFIED OBJECTS" from items 56 and 58 in fig. 5b) by said first inspection machine (fig. 5b, items 54, 56) in accordance with said determined sampling rate (14:14-25; "RBC2...defines subclasses of the main classes defined by the TBC, e.g., 'long scratch,' and 'short scratch,' both of the main class 'scratch' " at 14:14-25; refer to Final Action pp. 8-9 on "determining" a sampling rate) and classifying said reviewed defects ((the defects in items 56 and 58 were sampled and reviewed) with a second defect classifier ("RBC2" item 58 is a second defect classifier) corresponding to said second inspection machine (fig. 5b, item 58);

wherein in the step of determining, said sampling rate (14:14-25; "RBC2...defines subclasses of the main classes defined by the TBC, e.g., 'long scratch,' and 'short scratch,' both of the main class 'scratch' " at 14:14-25; refer to Final Action pp. 8-9 on "determining" a sampling

Art Unit: 2624

rate) is determined for each defect class (e.g., “the main class 'scratch' ” at 14:14-25) classified by a first defect classifier (“RBC1” and “TBC”, items 54, 56 are a second defect classifier) corresponding to said first inspection machine (fig. 5b, items 54, 56), to reduce a number of defects to be reviewed by the second inspection machine among the defects detected by the first inspection machine (the first inspection machine items 54, 56 removes those defects considered “unclassified objects” to item 60 for which the second inspection machine item 58 will never have to review, thus the first inspection machine items 54, 56 reduces a number of defects to be reviewed by the second inspection machine item 58 among those detected in items 54, 56 (those detected in items 54, 56 though whether they are “classified” or “unclassified” defects)).

Regarding **claim 19**, *Straforini et al.* discloses the method according to claim 18, wherein said second defect classifier (“RBC2” item 58 is a second defect classifier) has a decision tree (“REFINED OBJECT CLASSIFICATION” (for subclass recognition) and “UNREFINED OBJECT CLASSIFICATION” in fig. 3) for hierarchically expanding defect classification class items via branch items (the branches are the arrows leaving item box 56 in fig. 3), and wherein said decision tree is such that a classification rule (the classification rule is whether the object is sub-classed for “refined object classification” or just originally classed) created with sample inspection information (fig. 3, item 54) that has been previously derived from an inspection of an inspection sample (fig. 3, items 36, 18) is individually set for each of said branch items.

Regarding **claim 20**, *Straforini et al.* discloses the method according to claim 19, wherein said classification rule that is individually set for each of said branch items in said second classifier (refer to references/arguments cited in claim 21) is set from a screen that displays sample inspection information derived from an inspection of said inspection sample (“e.g., the distinction between two subclasses is a subjective judgment of the system operator, and also because the system operator might misclassify objects based on fine subclass distinctions...”, in 14:26-43, to do this the operator must view inspection information on some sort of “screen”).

Regarding **claim 21**, *Straforini et al.* discloses wherein in the step of determining, said sampling rate (14:14-25; “RBC2...defines subclasses of the main classes defined by the TBC, e.g., 'long scratch,' and 'short scratch,' both of the main class 'scratch' ” at 14:14-25; refer to Previous Action for further detail on “sampling rate”) is determined for each of defect classes (e.g., “the main class 'scratch' ” at 14:14-25) in accordance with a reliability (RBC2 relies on the



Art Unit: 2624

first defect classifier) of each defect class classified with said first defect classifier ("RBC1" and "TBC", items 54, 56 are a second defect classifier).

***Conclusion***

[9] Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID P. RASHID whose telephone number is (571)270-1578. The examiner can normally be reached Monday - Friday 7:30 - 17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David P. Rashid/  
Examiner, Art Unit 2624

David P Rashid  
Examiner  
Art Unit 26244

/Vikkram Bali/

Supervisory Patent Examiner, Art Unit 2624